Resilience and Self-Efficacy: An Integrated Review of the Literature

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ABSTRACT

Resilience is the ability of individuals, families, and groups to successfully function despite significant life difficulties (Werner and Smith, 1982; Rutter, 1987; Brown, 2008). Resilience is also different from recovery. The term recovery connotes a trajectory where normal functioning gives way to a sub-threshold functioning and gradually returns to pre-event levels. The purpose of this paper is to discuss the relevant theories that relate to the construct of resilience, conduct an integrative review of the empiric literature, and describe the state of the science, including gaps in the literature. The following online databases were searched for publications conducted between the years of 1970 to the present: Index Medicus (Medline); Cumulative Index to Nursing and Allied Health Literature (CINHAL0, and Psychological Information (PSYCH-INFO). While there is the extensive focus on children and adolescents in the resilience literature, there are relatively few studies investigating resilience among adults and older adults. Furthermore, the majority of research has its focus on individuals rather than on families, groups, and communities. There is also a lack of comparative studies between resilient children and adults, various cultural groups, and individuals of diverse socioeconomic levels. Nursing research in this area will contribute to theory development and nursing interventions for individuals facing adversities along the developmental continuum.

INTRODUCTION

Resilience is the ability of individuals, families, and groups to successfully function despite significant life difficulties (Werner and Smith, 1982; Rutter, 1987; Brown, 2008). It is not an individual attribute; instead, resilience is a developmental process that that shifts relative to changes in cognition, emotion, and the social environment (Masten, Best, Garmezy, 1990). The resilience process leads to reasonably positive adaptation within the context of adversity (Luthar, Chiccheti, and Becker, 2000). Resilience is also different from recovery. The term recovery connotes a trajectory where normal functioning gives way to the sub-threshold functioning and gradually returns to pre-event levels. Resilience, on the other hand, reflects the ability to maintain a stable trajectory of healthy psychological and physical functioning over time (Bonanno, 2004). The purpose of this paper is to discuss the relevant theories that relate to the construct of resilience, conduct an integrative review of the empiric literature, and describe the state of the science, including gaps in the literature.

Theories

The concept of self-efficacy as described by Bandura (1977) permeates the resiliency literature. The social cognitive theory postulates that human behavior is a continuous reciprocal interaction between cognitive, behavioral and environmental factors or determinants. The responses of the individual may change relative to the situational context with one or more of the determinants exerting influence on the behavior. The core individual determinants of knowledge, perceived self-efficacy, outcome expectations, goals, perceived facilitators and impediments influence health behavior (Bandura, 2004). The theory also stresses the roles played by symbolic and self-regulatory processes. The capacity of human beings to use symbols allows them to represent events. The central role of self-regulatory processes directs the individual to select, organize and transform stimuli that impinge on them. In the social learning perspective, change derives from and is mediated by cognitive appraisals. Cognitive events are induced and altered by experiences of mastery from success. The construct of efficacy is central to social learning theory. An efficacy expectation is the belief that one can successfully perform the behavior required to produce the successful outcome. Efficacy expectations determine how much effort individuals will expand in the face of adversities. The theory purports that perceived self-efficacy affects coping efforts and the stronger the self-efficacy, the more active the efforts (Bandura, 1977). When individuals

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fail to meet challenges, some become less sure of their efficacy and lower their goals, while others remain confident and persist in the face of failure (Bandura and Locke, 2003).

Bandura (2004) elucidates that health promotion and illness prevention can be accomplished through social cognitive processes. The core determinant of knowledge allows the individual to identify health risks and the benefits of health practices. Perceived self-efficacy provides the individual with control over their health and the benefits of health practices are viewed as outcome expectations. Individuals make health goals and identify the facilitators and barriers to positive health behaviors (Bandura, 2004). Mediator cognitive processes influence behaviors, according to social learning theory. Individuals function actively in their own self-motivation toward competency High efforts is made when goals are difficult (Bandura, 1977).

The social cognitive theory provides a theoretical perspective for the construct of resilience. The assumptions from social learning theory that pertain to resilience include: (1) human behavior is a continuous interaction between cognitive, behavioral and environmental factors and this behavior is self-regulatory in nature, (2) The individual is able to select, organize, and transform stressors that affect them to obtain mastery and competence, and (3) Perceived self-efficacy impacts coping efforts and the stronger the self-efficacy, the more active the efforts.

Bogenschneider's (1996) Ecological Risk Protective Theoretical Model also contributes to an understanding of resilience. This theory asserts that protective factors, or resilient factors, must be combined with identified risks to understand adaptation. These processes must be assessed in multiple layers of human-environment interactions. Within the construct of resilience, there is a salience of protective factors by which individuals cope with adversity. They include biological and psychological factors, including health, cognitive skills, self-efficacy, self-regulation and sources of emotional support (Masten and Powel, 2003; Werner and Smith, 1982). Other protective factors that contribute to resilient outcomes include social responsiveness, self-reliance, self-esteem, optimism, and hope (Werner and Smith, 1982; Rutter, 1987; Garmezy, 1991;Werner, 2004; Veseleska, Geckova, Orosova, et al, 2008; Grote and Bledsoe, 2007; Mednick, Cogen, Henderson, Rohrbeck, Kitessa and Steisand, 2007; Scudder, Sullivan, and Copeland-Linder, 2008; Edward, Welch, and Charter, 2009).

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Within a health promotion framework, protective factors are important to health-seeking behavior and positive health practices. Rogers's (1983) revised Protection Motivation Theory identifies four factors that contribute to individual protection. They include perceptions of the severity of the threat, vulnerability, self-efficacy, and response efficacy.

Antonovsky (1996), in his salutogenic theory of health promotion, argues that a risk-pathology-deficit framework does not define the individual's health promotion behavior. Instead, when confronted by adversity, individuals who have a sense of coherence will adapt despite the stressors. This sense of coherence is a combination of cognitive, behavioral, and motivational factors. These factors include individuals' perceptions that stressors are comprehensible, meaningful, and manageable, not unlike the paradigm of social-cognitive theory.

Pender's (Pender, Murdaugh, and Parson, 2006) Health Promotion Model (HPM) lends credence to the constructs of resilience and self-efficacy. In this model, there are personal, psychological, and socio-cultural factors that predict health behavior. Perceived efficacy allows the individual to believe that they can influence their health behavior and identify barriers to that behavior. A tenet of the model includes that in all stages of development, individuals have the ability to improve their health. Health behavior is influenced by social support and modeling from others, as well as situational factors in the environment.

The extant theories presented have the common themes of adversities, protective factors that ameliorate stress and adaptation or successful functioning. The person-environment interaction is paramount for health promotion. Personal or individual characteristics include self-efficacy, cognitive appraisals of threats, a sense of coherence and self-esteem. Social support and social modeling help individuals deal with adversity within the context of situations in the environment.

Integrative Review

Resilience has been defined theoretically as a dynamic process, which involves an interaction between risk and protective factors that are both internal and external to the individual. Resilience can modify the effects of an adverse life event and successful adaptation (Rutter, 1987). The construct of resilience has been studied relative to competence, cognitive variables, and protective ecological factors.

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Data Collection

The following online databases were searched for publications conducted between the years of 1970 to the present: Index Medicus (Medline); Cumulative Index to Nursing and Allied Health Literature (CINHAL0, and Psychological Information (PSYCH-INFO). The search terms used were resilience, resilience and self-efficacy, resilience and ecological protective theory, resilience and chronic illness. The sample of the literature was further refined to include publications that focused on the study of resilience in humans across the lifespan and groups facing adversities. The resultant sample of literature included publications from nursing, social work, psychology, and psychiatry. There were twenty-four research journal articles and three books of the research in the area.

Empirical Studies of Resilience and Competence

The early empirical literature on resilience focused on children at risk for psychopathology. The focus became one of competence rather than deficits, defining competence as effective functioning in the environment (Masten, Best, and Garmezy, 1990). Garmezy, Masten, and Tellegen (1984) in their two-year longitudinal study of 200 third through sixth graders in two central Minnesota city hypothesized that dispositional attributes, family characteristics, developmental characteristics and parental attributes were related to coping and resilience. In order to reduce the variables for multivariate analysis, the researcher's factor analyzed peer and teacher ratings and created two composite competency scores: an engaged-disengaged score and a classroom disruptiveness score. A third factor included items related to self-esteem, striving, and motivation. Through a series of multiple regression analyses, the researchers identified a three-model approach to describe the impact of stress and personal characteristics on the quality of adaptation of children in school. In the first model, the compensatory model, stress factors, and personal characteristics combined additively in the prediction of competence. In this model, personal characteristics of strength compensated for severe stress. In the second model, the challenge model, there was a curvilinear relationship between stress and competence where stress was seen as a potential enhancer of competence. In the third model, the protective-factor model, personal characteristics moderated the impact of stress suggesting that these protective factors provided buffers or immunity against stress. The authors concluded that the compensatory, challenge and immunity models were not mutually exclusive. They viewed the challenge and immunity models as two different types

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of coping because there were different types of relationships between personal attributes, stressful circumstances, and adaptation. (Masten, Gramezy, and Tellegen).

Hollister-Wagner, Foshee, and Jackson (2001) tested four models of resiliency: compensatory, risk-protective, protective-protective, and challenge in a sample of 1,747 8th and 9th graders in 14 middles schools. The adolescents were part of a prevention program for dating violence. Each model was tested separately for girls and boys. Protective factors included religion, self-esteem, closeness to adults, relationship competence, constructive communication skills, and constructive anger response. Multiple regression analyses revealed that the protective-protective and the challenge models were supported for females, but none of the models were supported for males.

Luthar (1991) examined factors that allow children to maintain socially competent behavior despite experiencing multiple life stressors in a sample of 144 10th grade adolescents enrolled in an inner-city school in Connecticut. Examination of the relationships between stress, competence based on teacher, peer ratings, and grades and the moderator variables of intelligence, internal locus of control, social skills, ego development, and life events was accomplished through hierarchical multiple regression analysis. Luthar found ego development was compensatory against stress. Internality and social skills were protective factors and intelligence and positive development was involved in the vulnerability processes. It was also found that resilient children were significantly more depressed and anxious than their competent counterparts.

Empirical Studies of Resilience and Self- Efficacy

The theoretical perspective of the Major, Richards, et al (1998) study on the relationships among personal resilience, cognitive appraisals, and coping on adjustment to abortion was derived from Lazarus and Folkman's (1984) stress and coping model and Bandura's (1977) theory of self-efficacy. The sample consisted of 527 women who received first-trimester elective abortions in a freestanding clinic in Buffalo, New York.   The researchers hypothesized that cognitive appraisals and coping self-efficacy would fully mediate the relationship between the personal resilient attributes self-esteem, control, optimism and post-abortion adjustment. The results of the study demonstrated that the higher the personality resources of self-esteem, perceived control, and optimism, the less likely the women perceived abortion as a stressor.   The researchers also found, with the exception of the path

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between personal resources and well-being, the relationship between personal resilience and post-abortion adaptation was fully mediated by cognitive appraisals and coping self-efficacy efforts (Major, Richards, et al, 1998).

Todd and Worell (2000) studied the relationships between self-efficacy, social support vs. social problems and downward social comparison on the resilience of 50 low-income African-American women. Using multiple regression analyses, the researchers found that self-efficacy did not predict resilience in this population. However, the number of problematic others did predict resilience; resilient individuals had less problematic others in their network. Social support was not predictive of resilience. Resilience was predicted by downward social comparisons. Problematic social others and downward social comparisons predicted more than 48% of the variance of resilience. The authors concluded that focuses on problematic social networks need to be addressed relative to resilience.

Hardy, Concato, and Gill (2004) studied resilience in older individuals. A sample of 754 individuals, 70 years or older, were able to function independently, were recruited for the study. After each participant identified a stressful event, the events were categorized as personal illness, the death of a close individual, and illness of friend or family member. Demographic, clinical, functional and psychosocial factors were categorized by tertiles of resilience, with high resilience scores being in the best tertile. Using the Mantel-Haenszed chi-square statistic, functional self-efficacy was found to have a significant linear trend of resilience. Other factors that demonstrated this trend were high physical activity and good self-rated health. The researchers also found that the higher the perceived stress, the lower the resilience ($r=-.031$, $p<.001$). The researchers concluded that resilience is important to the well-being of older individuals.

Lackaye, Margalit, Ziv, and Ziman's (2006) study compared measures of self-efficacy, mood, effort, and hope in a sample of 125 students with learning disabilities (LD) and 123 non-LD students in Israel. The results illustrated that students with LD had lower levels of academic self-efficacy ($F_{(1,242)} =13.71$, $p<.01$), social self-efficacy ($F_{(1,242)} =$, effort ($F_{(1,242)} =4.03$, $p<.01$), hope ($F_{(1,242)} =5.81$, $p<.01$), and positive mood ($F_{(1,242)} =8.63$), $p<.01$) than the non-LD group. Even when they were matched by school grades, the students with LD reported lower levels of self-perceptions than the non-LD group. The authors concluded that resilience research with its emphasis on risk and protective factors might be relevant to

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students with LD. Further, students with perceived self-efficacy are more likely to self-regulate themselves to obtain mastery over their goals.

Gillespie, Chaboyer, and Wallis, and Grimbeek, 2007 used a correlational cross-sectional design to test a resilience model on a sample of 772 Australian operating room (OR) nurses. The researchers proposed that OR nurse resilience was related to perceived competence, education, years of employment, collaboration, control, self-efficacy, hope, coping, age, and experience. Two multiple regression analyses were done to test models of resilience. Hope, self-efficacy, coping, control, and competence explained resilience at statistically significant levels. Age, experience, education, and years of experience did not contribute to resilience. The strongest explanatory variables in both models were self-efficacy, hope, and coping (Gillepsie, Chaboyer, and Grimbeek

Murphy and Marelich (2008), in their longitudinal study of children whose mothers were diagnosed with HIV/AIDS, sought to find the attributes related to resiliency in these children. The sample consisted of 111 HIV-symptomatic mothers who had a good child between the ages 6-11 living in Los Angeles County, California. The final sample included 102 groups of resilient and non-resilient children who were grouped via cluster analysis. Data were obtained at baseline, 6, 12, and 18 months. The results showed that resiliency decreased as the maternal viral load increased (Spearman Rho= 0.25, p=. 01). Also, the levels test demonstrated resilient children had greater coping efficacy. The resilient children also demonstrated lower negative mood (F (1, 73) =24.04, p<0.01), lower interpersonal problems (F (1, 80) =13.60, p<0.01), and lower negative self-esteem (F (1, 75) =16.96, p<0.01) than non-resilient children. The researchers concluded that resilient children function on coping self-efficacy and mood better than non-resilient children across time.

Palesh, Shaffer, Larson, et al (2008) studied correlates of mood disturbance in a sample of 82 women recently diagnosed with breast cancer. More specifically, they investigated the associations between emotional self-efficacy, social support, stressful life events and mood disturbance. The researchers found that there was a positive correlation between mood disturbance and stressful events (r=0.50, p<0.001). Emotional self-efficacy was negatively related to mood disturbance (r=-0.58, p<0.001. There was no significant association between social support and mood disturbance. Multiple regression analysis demonstrated that the model of emotional self-efficacy, number of stressful events, social support and their interactions relative to mood disturbance accounted for a significant amount of the variance.

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The authors concluded that the findings of the relationship between emotional self-efficacy and mood disturbance in women diagnosed with cancer contribute to a sparse literature in this area.

Resilience and self-efficacy have also been studied as mediators to the relationship between stress and coping. Li and Yang (2009) tested a theoretical model connecting stress, self-efficacy, trait resilience, secure attachments, and motivation to problem-solving coping, social support seeking coping and avoidance coping. The sample consisted of 326 Taiwanese college students. Using path analysis, the results showed that resilience had the strongest contribution to problem-solving coping (. 258), followed by motivation (.227) and self-efficacy (.178). Stress made the strongest contribution (.210) to social-support seeking coping, followed by followed by motivation (.138) and secure attachment (.129). Relative to avoidance coping, stress (.296), self-efficacy (.123) and resilience (-.144) contributed to avoidance. The researchers concluded that self-efficacy integrates with resilience to effect problem-solving coping. Furthermore, self-efficacy and resilience motivate coping responses in individuals.

Resilience and the Salutogenic Model

Using Antonovsky's (1998) salutogenic model and the stress and coping theory of Lazarus and Folkman (1984), Vinson (2002) studied 235 asthmatic children to develop a model of resilience. The risk and vulnerability model proposed included the child, family characteristics, threat appraisal, coping patterns leading to quality of life and illness indices. Vinson found that the family characteristics of cohesiveness and adaptability significantly correlated with optimism (r=/37, p<0.001; r=.40, p<0.001), social support (r=.27, p<0.001; r=.37, p<0.001), and complies with treatment (r=.23, p<0.001; r=.33, p<0.001). Structural equation analysis found that six paths emerged in the model with a direct path between threat appraisal and quality of life and illness indices. The further delineated paths were from family to child, family to child's coping, child coping to illness indices and perceived quality of life to illness. Vinson concluded that the model presented will assist nurses to understand the influences on child health and well-being when stressed by the chronic illness of asthma.

Resilience and the Ecological-Risk-Protective Model

From an ecological-risk-protective theoretical perspective, resilience literature points to a common core of individual characteristics and social supports that ameliorate or "buffer" a

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person's response to stressful life events (Werner and Smith, 1982; Rutter, 1987). Werner and Smith's (1982) seminal work following children from Kauai, Hawaii from birth to age 40 described multiple adversities for this group, including poverty, complications at birth, parental psychopathology, and family dysfunction. Comparing these children with children without such adversities, Werner (2004) found that one-third of the high-risk group functioned well by adulthood despite the adversities they faced, The principle purpose of their study was to document by natural history method all the pregnancies in Kauai, Hawaii and follow these children from birth to 40 years of age, and to investigate the long-term consequences of birth complications, poverty, parental psychopathology, adverse child environment on the individual's adaptation to life.

The sample included 698 individuals who were monitored for biological and psychosocial risk factors, stressful life events, and protective factors at birth, early and middle childhood, late adolescence and at the ages of 32 and 40. The final sample at the age of 40 consisted of 489 individuals. One hundred and fifty-nine individuals in the original cohort encountered sustainable biological and psychosocial adversities. Two-thirds of this cohort (n=129) who had experienced these adversities did develop learning and behavior problems by age 10 and/or delinquency, teenage pregnancy, and mental health problems by age 18 (Werner and Smith, 1992). Yet, 84% of them had made a recovery and were functioning adequately by the age of 40. Measures used to evaluate the sample as they progress from birth through midlife included structured interviews of mothers at year 1, pediatrician medical exams and the Cattell Infant Intelligence Scale at age 2, grades and teacher evaluations at age 10, and records from schools, courts, and hospitals at age 18. At years 31/32 assessments were made on how well the cohort had transitioned into the world of work, marriage, and parenthood, and what sources of support they used to deal with stressful events. The individuals were asked to complete the Life Events and the Temperament Survey for Adults. The forty- year follow-up used a demographic questionnaire to elicit information including information about employment, health status, current marital status, and any hardships they had encountered. A second questionnaire focused on major midlife issues in their work and the quality of their relationships with their spouses, their children, and other family members. Issues of generativity were also explored, including community, church, and volunteer work (Werner and Smith, 2001). Successful coping in adulthood was defined by work, successful relations with mates, successful relations with children, parents and with peers (p. 39). A discriminate analysis and latent variable path analysis showed direct links between disruptions in the

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family and coping problems in adulthood (Werner and Smith, 1992). The researchers concluded that the roots of resilience are found in a chain of protective factors that included an intact central nervous system and good health, cognitive skills, temperament, self-efficacy, and the sources of emotional support the individual could rely on at each stage of development. These protective buffers were important in early childhood to lay the foundation of resilience and for recovery in later stages of development when individuals seized opportunities from supports in the community (Werner and Smith, 2001).

In a more recent study, Brown (2009) studied social support and racial socialization as protective factors in African-American resiliency. The researchers posited that social support and racial socialization would predict the resiliency of African-American undergraduate students. The participants in the study included 156 African-American students in an introductory psychology course in a large midwestern university. The results demonstrated that resiliency was positively correlated with racial socialization and social support. Hierarchal multiple regression analysis demonstrated racial socialization and social support predicted resiliency (F $(2,142)$, $p <. 025$). The authors concluded that further empirical research of African-American resiliency and possible protective factors was needed.

Using a risk and resiliency framework, Yakin and Mahon (2003), studied 142 urban African American 5th-8th grade students, ranging in age from 10-15, living in low-income, violent neighborhoods and attending schools in Chicago that serve 96-97% of low-income students. The authors assessed the resilience proximal variables of personal resources and community support. The study was conducted in order to document the effectiveness of two violence protection programs. Path analysis demonstrated that self-esteem and community support lead to the better psychosocial functioning and were "resilience domains" for the participants in the study. This study is important because it tested the components of a theoretical model that was developed for African American youths, which is an understudied population, and used a resilience framework. The researchers concluded that more investigations are needed to confirm the constructs in the model.

There are also gender differences observed in self-efficacy and resilience. Using an ecological model, Benda and House (2003) studied 225 male and 232 female veterans to determine the factors that predict Post-Traumatic Stress Disorder (PTSD). Using logistic regression, the researchers found that the odds ratios for PTSD for women were related to depression (1/2.30) and fearfulness (1/2.11). Among the relevant predictors for men were

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self-efficacy .58 (1.72), resilience .42(2.36), and combat stress 1(2.01). The researchers concluded that there are gender differences in predictions of PSTD with resilience and self-efficacy being more important for women than men.

Other variables were identified as protective factors for resilience. Using a risk-resilience framework, Horton and Wallendar (2001) studied the role of hope and social support in a sample of 111 mothers of school-age children with the chronic physical conditions. The researchers found that maternal distress was not significantly correlated with severity of illness of the child's diagnosis. They also found that hope moderated the effect of maternal distress. Mothers with high hope had less distress than those with low hope. Furthermore, when stress was low there were no differences in the high and low hope group, indicating hope as a buffering effect. There was a significant negative relationship between the Social support (r= -.44, p<.001), hope (r=-.38, p<.001), and maternal distress. The authors suggest that resilience interventions should include hope and social support strategies, as well as strategies to enhance individual beliefs that successful functioning is possible.

Hope was also studied as a resilient factor in parents of children diagnosed with type 1 diabetes (Mednick, Cogen, et al (2007). Mednick, et al studied 75 mothers of diabetic children, aged 2-5 years old to determine the role of hope in psychological distress and anxiety. Using stepwise regression, hope was found to be significantly related to anxiety (F (3, 74) =11.67, p<.001. Hope was negatively associated with distress in these mothers. The researchers concluded that hopeful mothers experience less psychological distress than mothers with low hope and hope is a protective factor for mothers with the chronic illness of diabetes.

Carbonelli, Reinherz, and Giaconia (1998) studied 400 eighteen-year-old adolescents at risk for depression. One-hundred and eight of the identified at-risk group were further stratified into three groups based on DSM III-R diagnoses. Two of the groups met the standard for DSM III-R diagnoses (n=28), while one of the groups did not have any psychiatric diagnosis despite multiple adversities. This group was identified as the "resilient group" (n=14) in that they functioned successfully. The three outcome groups were compared on behavioral difficulties, academics, social functioning, including self-esteem. The findings demonstrated that there were significant differences between the resilient group and the other two groups, with the resilient group having greater self-esteem, less behavioral difficulties, better social functioning, less anxiety, and higher satisfaction with social support than the other two

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groups. They also found that social support was related to resilience and recommended that interventions focusing on protective factors to resilience are needed.

Self-esteem was also viewed as a protective factor in the construct of resilience. Veselisk, Geckova, et al (2009) studied the relationship between self-esteem and resilience with smoking and cannabis use in 3694 adolescents in the 8th and 9th grades in Slovakia. The participants ranged in age from13 to 16 years old. Resilience included the perception of self, the perception of future, social competence and social resources. Using multivariate analysis, the researchers found that adolescents with positive self-esteem were less likely to smoke than boys with low self-esteem. Further, family cohesion decreased the probability of smoking for both genders, while the perception of future decreased the probability of smoking among girls. Univariate analyses demonstrated that low-self esteem increased cannabis use in both boys and girls. Also, boys who perceived themselves as having social resources were less likely to use cannabis, while with girls' perception of the future; social competence and family cohesion decreased the probability of cannabis use. The researchers concluded that protective factors will ameliorate risky behaviors in adolescents.

Chou & Hunter (2009) used mixed measured design to study factors affecting the quality of life in childhood cancer survivors of brain tumors or leukemia. This pilot study consisted of 98 late adolescents, with an age range of 18-21 years. The relationship between quality of life and protective factors ($r = 0.46$ $p<0.001$) and quality of life and resilience ($r=0.52$, $p=< 0.001$) was statistically significant. Individual risks ($r=-0.67<0.001$) and illness-related risks ($r=-0.56$, $p<0.001$) negatively correlated with quality of life. In the tested model resilience was defined as the positive attitude, self-efficacy, surviving in whatever way possible. Individual protective factors in the final model included self-esteem, self-efficacy, and hope.

Qualitative Studies

Themes emerged in several qualitative studies describing resilience. They include self-reconstruction (Vliet, 2008), ordinary magic, which includes drawing on social support, personalized medicine or building on personal strengths (Dorwick, Kokanovic, Hegary, Griffiths, and Gunn, 2000), making decisions to live through hardships or "just doing it" (Edward, Welch, Keri, 2009). Relative to resilience in chronic illness, themes of racism, religiosity, independence, and resilience were pervasive in older African American adults

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with chronic illness. It is evident that more grounded theory is needed in the study of the construct of resilience in adults.

In summary, the empirical literature on resilience focused on stress and competence of children at risk for psychopathology. Competence was defined as the successful interaction between the individual and the environment. Several well-designed longitudinal studies demonstrated that children faced with adversity were able to adapt to stress and function successfully. Coping and resilience were related to personal characteristics and supportive relationships. Self-efficacy was also an important variable moderating or mediating the relationships between stress and adaptation (functioning). Self-efficacy was found to relate to and mediate the relationship between stress, coping, and adaptation.

The importance of protective factors as buffers to resilience permeates the literature on resiliency. The protective factors identified in the studies include self-efficacy, hope, social support, optimism, humor, cognitive abilities, temperament, and health.

DISCUSSION

Luthar, Cicchetti, and Becker (2000) in their critical analysis of the resiliency literature make relevant points about the progress of research within the construct of resilience. They state that there needs to be more clarity and consistency in the use of definitions and the multidimensional nature of resilience. They warn that progress in the area of resilience will be constrained unless studies are theoretically based instead of empirically based.

Although there is a common definition of resilience in the literature, it is evident that there is a multi-model approach to the study of resilience. The models used in the reviewed literature change relative to the population being studied (e.g. adolescents, illnesses, adults). This multi-model approach is not a deficit in that resilience is a dynamic and complex concept. Some of the studies need to be viewed with caution as populations are not randomized, samples are small, some designs are cross-sectional, and the focus is on pathology, instead of health. Also, there are a variety of resilient outcomes, including quality of life, well-being, coping, and adaptive functioning.

Relative to theory, one theory does not elucidate resilience. For example, social learning theory is evident in the resilience literature, but is self-efficacy a resilient attribute, a mediator between stress and adaptation, or a moderator of resilient outcomes? Ecological risk-

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protective theory purports that there are protective buffers to resilience, but are the buffers the same in children and adults? Perhaps, resilience is the theoretical perspective that needs to be used in studying health and illness in a variety of populations.

As Unger (2004) points out only longitudinal studies have focused on compensatory and protective factors in the resilience literature. He argues that the ecological approach is inadequate to account for differences in resilience experiences. Health promotion theories alone do not drive research on resilience. Indeed, from the review of the literature, little has been done on health promotion; more has been done on pathology.

While there is an extensive focus on children and adolescents in the resilience literature, there are relatively few studies investigating resilience among adults and older adults. Furthermore, the majority of research has its focus on individuals rather than on families, groups, and communities. There is also a lack of comparative studies between resilient children and adults, various cultural groups, and individuals of diverse socioeconomic levels.

Barton (2005) asserts that the complexity of the construct of resilience, including a wide range of outcomes, potential risk factors, protective factors, and processes, places limits on quantitative models. The models used in the literature reviewed change relative to the population being studied (e.g. adolescents, illnesses, adults). This multi-model approach is not a deficit because resilience is a dynamic, complex concept.

However, models of resilience, which include stressor variables, protective factors, and successful adaptation, need to be tested. Moderators and mediators of resilience also need to be studied with various populations. Resilience also needs to be studied within a health promotion framework to determine its impact on positive health care practices. More research needs to be done on adaptive outcomes, including well-being, quality of life, and positive health practices. Lastly, there is a scarcity of nursing research in the area of resilience. Nursing research in this area will contribute to theory development and nursing interventions for individuals facing adversities along the developmental continuum.

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